

Meta-Ontology for Nanotechnology Roadmap

Contents of this Page

- [Prioritized Questions](#)
- [Specific areas of investigation](#)
 - [What are the most important use cases for the nanotechnology meta-ontology and what communities do these impact?](#)
 - [Searching for nanotechnology information](#)
 - [Exploring existing nanotechnology datasets](#)
 - [Developing predictive models](#)
 - [Curating, annotating, and sharing datasets](#)
 - [Identifying communities](#)
 - [What are existing ontologies, taxonomies, and other terminologies that support these use cases?](#)
 - [Biomedical ontologies and terminologies](#)
 - [Nanomanufacturing ontologies and terminologies](#)
 - [Terminologies from standards and other organizations](#)
 - [Communities of users and contributors](#)
 - [What are the best practices for integrating these terminologies into a meta-ontology to support the nanotechnology community use cases?](#)
 - [Ontology and vocabulary alignment methodology](#)
 - [Deployment](#)
 - [Versioning](#)
- [Milestones and dates](#)

Prioritized Questions

1. What are the most relevant use cases for nanotechnology meta-ontology and what communities do these impact?
2. What are the existing ontologies, taxonomies, and other terminologies that support these use cases?
3. What are the best practices for integrating these terminologies into a meta-ontology to support the nanotechnology community use cases?

Specific areas of investigation

What are the most important use cases for the nanotechnology meta-ontology and what communities do these impact?

Searching for nanotechnology information

- What is the end-user looking for?
- What are the current problems with search?
- Other

Exploring existing nanotechnology datasets

- What are the trends in nanotechnology research and characterization?
- Where are the gaps in current research?
- What are the most important characteristics or features?
- Other

Developing predictive models

- How do we relate nanomaterial formulation and preparation to activity?
 - Material properties
 - Biological activities
 - Environmental fate and transport
 - Other
- What types of models and ontology concepts/annotation support such prediction?
- Other

Curating, annotating, and sharing datasets

- How would a meta-ontology assist in the curation and annotation of nanotechnology data?
- How would a meta-ontology assist in the sharing of nanotechnology data?
- Other

Identifying communities

- What are the various roles of users for the use cases described above?
- What types of organizations support these users?

What are existing ontologies, taxonomies, and other terminologies that support these use cases?

Biomedical ontologies and terminologies

- What are the primary biomedical ontologies for nanotechnology?

Nanomanufacturing ontologies and terminologies

- What are the primary nanomanufacturing terminologies?

Terminologies from standards and other organizations

- What standards organization terminologies and lexicons are available for nanotechnology?
- What other terminologies would be useful to include in the meta-ontology?

Communities of users and contributors

- Who are the primary users of these vocabularies?
- Who are the primary developers of these vocabularies?

What are the best practices for integrating these terminologies into a meta-ontology to support the nanotechnology community use cases?

Ontology and vocabulary alignment methodology

- What are the best manual, semi-automated, and automated approaches for combining concepts and definitions into a meta-ontology?
- Other

Deployment

- How do we deploy and disseminate the meta-ontology?
 - Do we just provide the methods...
 - ...or the methods and results?
- Other

Versioning

- How do we version the meta-ontology to handle changes in the source terminologies?
- Other

Milestones and dates

- May: Preliminary use cases
- June: Preliminary source terminologies

- July: Preliminary approach to terminology alignment and combination
- August: Final use cases
- September: Final source terminologies
- October: Initial meta-ontology
- November: Final approach to terminology alignment and combination